

Date: Friday, 9/21/2007 12:59:23 PM  
 User: Kim Johnston

## Process Sheet

Customer	CU-DAR001 Dart Helicopters Services		Drawing Name	CROSSTUBE EXTRUSION (206L)		
Job Number	34774		Part Number	D6004115		
Estimate Number	10027		Drawing Number	D6004 REV A		
P.O. Number	:		Project Number	N/A		
This Issue	9/21/2007	S.O. No. :	Drawing Revision	A		
Prsht Rev.	NC		Material	:		
First Issue	11	Type : RMA	Due Date	9/28/2008	Qty:	36
Previous Run	34685		Um:	Each		
Written By	:					
Checked & Approved By	:					
Comment	Est Rev.B 00.12.15 Added: Issue P/O EC					

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
1.0	PG	PURCHASING
Comment: PURCHASING Issue P/O <u>4660</u> <span style="margin-left: 100px;"><u>CLO 7/09/24</u></span> a) Extrude as per Dwg D6004 b) Material: 7075-T6/T6511 (WW-T-7007 or QQ-A-225/9 or QQ-A-200/11) seamless aluminum tube c) Minimum ultimate tensile strength = 77 ksi d) Minimum tensile yield strength=66 ksi e) Material certification required		
2.0	D6004115P	Crosstube material
Comment: Qty.: 1.0000 Each(s)/Unit Total : 36.0000 Each(s) Crosstube material		
3.0	PACKAGING 1	PACKAGING RESOURCE #1
Comment: PACKAGING RESOURCE #1 Receive & Inspect For Transit Damage Ensure material certification is attached		
4.0	QC6	DIMENSIONAL CHECK
Comment: DIMENSIONAL CHECK Ensure Material certification comply to Dwg D6004		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 9/21/2007 12:59:23 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: CROSSTUBE EXTRUSION (206L)

Job Number: 34774

Part Number: D6004115

Job Number:



Seq. #: Machine Or Operation:

Description:

5.0 HAND FINISHING1

HAND FINISHING RESOURCE #1



*u/4 S*

Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005.4.1

6.0 PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: *Stock tube cell*

*u/RT 08-09-17*

7.0 QC21

FINAL INSPECTION/W/O RELEASE



*08/09/18*

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



*MF 08-09-18*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

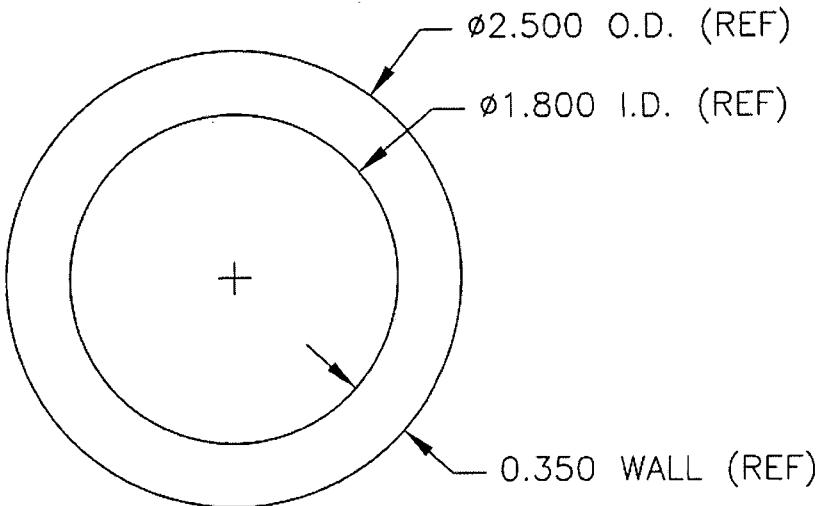
NOTE: Date & initial all entries



DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO. D6004
DATE		TITLE CROSSTUBE MATERIAL
00.11.22		SCALE 1:1
A	00.11.22	NEW ISSUE

## SPECIFICATION CONTROL DRAWING

RELEASED  
00.11.24 dt



### NOTES

1) D6004-XXX CROSSTUBE

LENGTH

WHERE XXX IS LENGTH IN INCHES

EG. 115" LONG TUBE: D6004-115

2) MATERIAL: 2.500 OD x 0.350 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.

MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi

MINIMUM YIELD TENSILE STRENGTH = 66 ksi

3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:

OD.:  $\pm 0.006$  MEAN ( $\pm 0.012$  INCLUDING OVALITY)

WALL:  $\pm 0.015$  MEAN ( $\pm 0.035$  INCLUDING ECCENTRICITY)

LENGTH: XXX  $+0.125/-0.000$

STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH

4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.

5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 341724

Copyright © 2000 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

## Packinglist ALUnna AG

Customer PO	PO. 00004660
ALUnna ref. no.	27068/2
Date:	08.12.08

**We hereby declare that the wooden packing material are totally free from bark and apparently**

free from live plant pests

## Boxmarking:

Dart Aerospace PO. 00004660 D 6004-115  
Made in Germany  
Dest. Hawkesbury Ont. Canada

18/04/16

# Abnahmeprüfzeugnis 3.1 - EN 10204:2004

Inspection Certificate 3.1 - EN 10204:2004 / Certificat de Reception 3.1- EN 10204:2004

<b>Kunde:</b>	Dart Aerospace Ltd.		<b>Zeugnisnummer:</b>	1177/08										
<i>Client:</i>	<i>1270 Aberdeen Street K6A1K7 Hawkesbury, ON Canada</i>		<i>Cert No.: / No. du certificat:</i>	<i>PO 00004660</i>										
<b>Produkt:</b>	Rohre nahtlos gepresst		<b>Bestellnummer:</b>	<i>Order No. / No. de commande</i>										
<i>Product / Produit:</i>	<i>Tubes seamless extruded</i>		<b>Auftrag:</b>	27068/2										
<b>Spezifikation:</b>	AMS - QQ - A - 200/11; Spezifikation Dart Aerospace D6004		<i>Our Reference/Notre Reference:</i>											
<i>Specification:</i>														
<b>Werkstoff:</b>	7075		<b>Zustand:</b>	T 6511										
<i>Alloy/Alliage:</i>			<i>Temper/Etat</i>											
<b>Abmessung</b>	2,500 INCH x 1,800 INCH x 0,350 INCH x 115,000 INCH													
<i>Size / Dimension</i>	<i>D6004-115 2.500 X 0.350 X 115</i>													
<b>Kennzeichnung</b>	ALUnna - Cert No. 1177/08 - 7075 - T 6511 - Cast No. 1245 - AMS - QQA 200/11 - 2.500" OD X 0.350" Wall - Heat No. 1820 - Lot 27068/2-1 PO. 00004660													
<b>Lieferung</b>	<i>Delivered Material / Matériel délivré:</i>		pcs.	lbs	<b>Country of Manufacture:</b> Germany									
			39	1049										
<b>1. Chemische Analyse</b> <i>Chemical Analysis / analyse chimique</i>														
Charge/ Cast No.	min. max.	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
		0,40	0,50	2,0	0,30	2,1	0,18	5,1						
1245/08		0,093	0,185	1,399	0,044	2,455	0,192	5,758	0,036	0,002	0,0167	0,0001	0,0011	0,0001
Hydrogen content: 0,11 ccm/100 g Al Elements without indication < 0,01 %						country of melt manufacturer: Germany								
<b>2. Mechanische Eigenschaften</b> <i>Mechanical Properties / Valeurs Mécaniques</i>														
Anforderungen Requirements		tensile (Rm) ksi		yield (Rp0,2) ksi		elongation 2"	%	elongation A	%	Hardness HB			Heat No.	
	min. max.	77,0		66,0										
1		86,130		79,750		10,0							1820 - 39 pcs.	
2		86,275		79,895		9,0								

RMS: outside 25 - max. 16,1  $\mu$ "

**Ergebnis der Prüfungen:** Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

**Test results:** We confirm that the delivery has been tested and applies to the agreements made on receipt of the order  
**Resultats:** Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande

KrampeR



Certified acc. DIN EN ISO 9001:2000 and DIN EN 9100:2003  
valid until 2010-11-11

Cert.- Reg. No.: 001959 QM; 001959 ASH

14.08.2008

Aluminiumwerk Unna AG, Uelzener Weg 36, 59425 Unna, Germany

 ALUnna  
Abnahmebeauftragter